

REMARKS

Reconsideration of this application is requested. No substantive amendments to the claims or application are presented by this response. Claims 13 and 26 have been amended to correct typographical errors.

Attached is a one-page presentation comparing the coil side supports of the present invention to Laskaris '168 (the principal prior art reference) that does not provide a coil side support for the portion of the coil next to the rotor end. The sides the coil are in planes parallel to the rotor axis. An end coil surface of the coil is in a plane perpendicular to the rotor axis. The coil housing 66 abuts the end surface of the coil in Laskaris '168 and does not support the side surfaces of the coils. The attached presentation illustrates that the present invention supports the side surfaces of the coil by the plates 60 that sandwich the sides of the coil. The plates are wider than the coil to provide strong support to the torsional and centrifugal forces that act on the coils during rotation. Support over the entire width of the sides surfaces of the coil is not provided by Laskaris '168.

Contrary to the statement in the Advisory Action, Laskaris '168 does not:

- Identify structure 22 as a "support" for a coil but rather states that structure 22 is a "thermal shield" which is "spaced apart" from the coil. *See* Laskaris '168, col. 2, lns. 49-50. Accordingly, the statement in the Advisory Action that thermal shield 22 supports the coil 20 is directly contrary to Laskaris '168 which shows the shield 22 as being spaced apart from the coil and,

thus, cannot support the coil. To make the distinction more clear between the "supports" of the claimed invention and the thermal shield 22 in Laskaris '168, the independent claims have been amended to require the support to "abut an entirety of a width" of a side surface of the coil. In Laskaris '168, the thermal shield does not abut the coil.

- The spacer plates 72 in Laskaris '168 also do not abut an entirety of a width of a coil, but rather separate the thermal shield 22 from the coil 20. *See* Laskaris, col. 3, lns. 47-53.

In rebuttal to the Response to Arguments stated in the Final Action, applicants state:

- The outside "end" surface of the coil in Laskaris '168 is perpendicular to the rotor axis, as is shown in Figure 3 of Laskaris '168. The plane of the end surface of the coil intersects the rotor axis at 90 degrees.
- The housing 66 in Laskaris '168 does not attach to or brace the side surfaces of the coil. The spacer plates 72 partially cover the side coil surfaces where they abut the corners of the coil and coil housing. However, the spacer plates do not cover the width of the side surface of the coil. Further, the spacer plates are not the housing 66. The Action improperly attempts to treat the housing 66 and plates 72 as one in the same, when they are separate components of the structure shown in Laskaris '168.
- The side surfaces of the coil are defined in the claims as being in a plane parallel to the rotor axis. The side surfaces of the coil are distinct from end

surfaces of the coil which are perpendicular to the rotor axis. The end surfaces of the coil shown in Figure 4 of Laskaris '168 abut the coil housing 66. The side surfaces of the Laskaris '168 coil are not covered -- except for the corners of the side surfaces that abut the spacer plates 72. End surfaces of the coil do not meet the requirement recited in the claims that side surfaces be parallel to the rotor axis. Accordingly, the end surface of the coil region at the end of the rotor is not a side coil surface. It is irrelevant that the term "end surface" is not used in the claims because the term coil "side surface" is used and defined in the claims.

- While the Action states that applicants have distinguish the prior art by referring to non-claimed elements, the Action does not identify these elements. If the Action is referring to the distinctions made regarding the "end surface" of the coil, then the above statements regarding the differences between the "end surface" and "side surfaces" should make clear that applicants are truly pointing to claimed elements, e.g., the "side surface", to distinguish the prior art.
- The spacers 72 of Laskaris '168 are much narrower than the coil, as is apparent from Figure 4 of that reference. Whether the coil housing (66) in Laskaris '168 is as wide as the coil is irrelevant, because the housing does not attach or brace the side surface of the coil.

The rejection of claims 1, 3-8, 12, 14-17 and 19-24 as being anticipated by Laskaris (U.S. Patent No. 5,548,168) is traversed. The rejected claims are directed

towards a coil support for a superconducting coil on a rotor, wherein the coil support clamps against sides of the coil and the support is wider than the coil to brace the end section of the coil and covers the coil side.

Laskaris '168 discloses a "contoured housing 66" for a cooling tube (84). The contour housing extends along the outer periphery of the rotor coil winding. The housing abuts the outside end surface of the coil section next to the rotor. This end surface of the coil is perpendicular to the rotor axis, as is shown in Figure 3 of Laskaris '168. The attached presentation illustrates the difference between the plates of the present invention that brace the sides of the coil, and the housing (66) of Laskaris '168 that abut against the end surface of the coil.

The Laskaris '168 coil housing (66) provides no direct support to the side surfaces of coil (20). The coil housing is not affixed to the side surfaces of the coil. Moreover, the Action incorrectly states that the coil housing is as wide as the coil. As the coil housing does not abut the sides of the coil – where the sides are parallel to the rotor axis – it is not clear from the patent drawings in Laskaris '168 whether the coil housing is wider than the sides of the coil. Further, because the coil housing does not abut the sides of the coil, it is irrelevant whether the coil housing is as wide as the sides of the coil.

The Action asserts that the spacer plates (72) support the coil and sandwich the sides of the coil. Contrary to the Action, the spacers merely prevent the coil from sliding from side to side within the thermal shield (22). There is no suggestion that the plates (72) brace the coil, they are not wider than the coil sides, and they do not cover the coil

and do not cover the coil. The spacer plates in Laskaris '168 do not take the place of the coil housing (66) or serve the same support function.

There are several claim elements that are not disclosed or suggested by Laskaris '168 including:

- An end coil support that “abuts at least one side surface of said coil end section, wherein said at least one side surface is in a plane substantially parallel to a rotor axis” (Claims 1, 12 and 17)
- The end coil support being wider than a width of the coil end section and covers the side of the coil end section. (Claims 1, 12 and 17)
- Wherein the coil support is a split clamp having opposing surfaces abutting the sides of the coil. (Claims 2 and 13, see also claim 18). The spacer plate (72) shown in Laskaris are not plates which sandwich the end section of the coil.
- Wherein the coil support is a pair of plates that sandwich the sides of the end coil. (Claims 3 and 15, see also claim 19). The spacer plate (72) shown in Laskaris are not plates which sandwich the end section of the coil.

The obviousness rejection of claims 9-11 and 25-27 are traversed for substantially the same reasons as stated above regarding Laskaris '168. Further, the Rios patent (U.S. Patent No. 4,277,705) does not suggest that the Laskaris coil housing (66) be modified to form the claimed invention. The coil support disclosed in Rios are end sections (20) of a stack of coils and plates that form the rotor core. The rotor core section (30) does not provide support to the end section of the coils. Rios does not suggest that the coil

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winding housing (66) in Laskaris '168 be modified to form the end coil support section shown in the present invention. Further, Rios does not disclose or suggest the side coil support as shown in the present application.

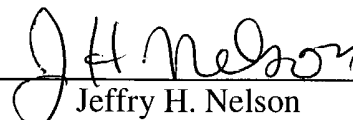
The rejection of dependent claims 2, 13 and 18 as being obvious over Laskaris '168 in view of Nottingham (US Patent 4,072,873) is traversed for the reasons stated above for the corresponding independent claims. Nottingham does not disclose a split clamp for a rotor or for a moving coil. Rather, Nottingham discloses a stationary split clamp for a stator. There is nothing in Nottingham to suggest that the stator split clamp should be used to replace the spacers 72 and coil housing 66 in Laskaris '168.

All claims are believed to be in good condition for allowance. If any small matter remains outstanding, the Examiner is respectfully requested to telephone Applicant's attorney. Prompt reconsideration and allowance of this application is respectfully requested.

Respectfully submitted,

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